WEAVER BOOS CONSULTANTS

November 19, 2010
Project 0013-01-01

Ms. Alicia Brown
Indiana Department of Environmental Management
Permits Office of Land Quality
100 N. Senate Ave. MC 65-45 IGCN 1101
Indianapolis, IN 46204-2241

Re: Site Assessment Plan
Yard 520 RWS
Permit # 64-04 / 64-07
Town of Pines, Porter County

Dear: Ms. Brown:

On behalf of the permittee for the above referenced facility, Weaver Boos Consultants North Central, LLC (Weaver Boos) is herein providing the following Site Assessment Plan (Plan) related to a small area on the west side of the Type II Area, along Birch Street. Although recent site inspections have revealed no evidence of saturated conditions at the ground surface at this location, this location has exhibited saturated conditions near the ground surface in the recent past.

The following Plan is being provided in response to a letter from the Indiana Department of Environmental Management (IDEM) dated October 7, 2010. Comments included with this letter indicated that a site assessment is required and the findings are to be submitted to Alicia Brown in the solid waste permits section, for engineering and geology review. More recent site inspections since the last known IDEM inspection on September 21, 2010 that have included USEPA personnel (but not IDEM personnel) have indicated that the conditions previously characterized by IDEM as a "seep" at this location are no longer present. Nevertheless, the following Plan is being provided pursuant to an email from Ms. Ashley Snyder of IDEM on November 4, 2010. The following Plan also considers information contained in an email from Mr. Troy Weaver of IDEM on October 22, 2010, which provided feedback pertaining to the concept of installation of additional piezometers in proximity of this area as a means for assessing the source of this condition.

Pursuant to prior communications with IDEM, the primary objective of the following Plan is to collect information that will allow for conclusions to be made regarding the source of the previously observed condition. The two most logical sources are believed to be surface water or groundwater (or some combination).

IDEM's November 4, 2010 email communication indicated that IDEM was in contact with Mr. Tim Drexler of the USEPA Region 5 to ascertain the results from a site inspection performed during a recent site visit by USEPA. As mentioned above, USEPA was present during a recent site inspection that did not identify evidence of saturated conditions at the ground surface at this location. Therefore, this Plan is contingent upon the results of these future communications between IDEM and USEPA.

PROPOSED SCOPE OF WORK AND SCHEDULE

The site assessment will be undertaken through the installation of a minimum of three temporary piezometers in proximity of the area of concern as shown on the attached Figure 1. The locations shown on Figure 1 will be subject to slight modification in the field, depending upon conditions at each location. The temporary piezometers will only be installed in locations where the Geoprobing equipment can operate safely. The temporary piezometers will be screened across the water table surface, or as deep as the Geoprobe can penetrate, if the Geoprobe is unable to reach the water table. The pipe will have threaded flush joints and be equivalent to Schedule 40 ASTM standards. The temporary piezometers will be one-inch diameter and installed in a hole advanced using a 3 inch diameter Geoprobe. Continuous soil samples will be collected from the Geoprobe from the ground surface to the termination depth of each probe and the relevant soil characteristics will be logged, including at a minimum:

- Unified Soil Classification (or alternate description of materials encountered);
- Color;
- Moisture;
- Recovery,
- Reaction to dilute hydrochloric acid; and
- Hand penetrometer result.

The screens will be 5 or 10 feet in length and 0.01 inch machine slots. A cap of the same material as the well screen will be threaded onto the bottom of each well screen to prevent the

intrusion of filter material and a removable vented cap will be installed at the top of the riser pipe.

The annular space of the piezometers will have a minimum thickness of 2.0 inches between the casing and the probe wall. The annular space surrounding the screen will be backfilled with a clean coarse silica sand/fine gravel, from 0-6 inches below the well screen to a level 1-2 feet above the well screen. Backfilling will be done in 2-foot increments or less as the probes are withdrawn to keep the hole from collapsing around the well point before the sand pack chamber is established.

A minimum two (2) to four (4) foot seal of bentonite, pellets or equivalent, will be placed above the sand pack. Special care will be exercised to obtain an adequate bentonite seal as casing is withdrawn.

A high solids bentonite grout will then be tremie placed to within approximately 1-2 feet of the ground surface. Alternatively, if above the water table, the remaining annular space may be backfilled with bentonite chips to a depth of 1-2 feet below ground surface. The chips must be installed in-place (i.e., bridging must be avoided) and sufficiently hydrated as they are installed.

A surface seal of concrete will be installed in the remaining borehole annular space. The concrete will extend a minimum of 6 inches away from the well head in all directions and be sloped to drain surface water away from the piezometer. To provide security, a locking protective metal casing will be installed around the well casing and anchored within concrete. A vent hole or vented cap will be placed at the top of the well casing.

After installation of the temporary piezometers, the locations and elevations will be surveyed. The locations will be surveyed to the nearest foot using the state plane coordinate system. The elevation of the ground, top of inner PVC casing and top of outer steel casing will also be surveyed to the nearest 0.01 ft. relative to a known elevation datum historically utilized at the facility. The ground elevation at the location of the historical seep will also be surveyed (assuming that the location is evident in the field at the time of surveying).

In addition to the probes advanced for purposes of installation of piezometers, a minimum of four additional Geoprobes will be advanced up slope of the area of concern to evaluate the condition of the final cover layer. The probes will be advanced until the Type II materials are encountered. A description of the materials encountered within each probe will be compiled within a log or

summarized on a table. Upon termination, each of the probes will be backfilled with granular bentonite to the ground surface. The location of the probes will be surveyed, so they can be accurately located on a map.

An assessment of the vegetation around the area of concern will also be undertaken, along with an inspection to identify potential rills, gullies, or settlement in proximity of the area of concern. The inspection will especially focus on areas up slope of the area of concern.

A report will be submitted to IDEM within 60 days after the completion of the installation of the piezometers documenting the details related to the temporary piezometer installation, as well as the additional probing and inspection of the final cover referenced above.

Upon the installation of the piezometers, a program of monthly depth to groundwater elevation measurements will be implemented. It will include measurements from the temporary piezometers installed during this investigation, as well as MW-10, P-10, MW-1R, MW-13S, MW-14S, TW-15S, TW-16S, TW-17S, TW-18S, TW-19S, MW-5, MW-6, MW-7, MW-8, MW-11, and P-2. The groundwater elevations will be illustrated on a map and groundwater elevation contours will be constructed, if feasible. The monthly groundwater elevation measurements will continue for 12 consecutive months.

Within 60 days after the completion of the 12th month of data collection, a report will compiled and submitted to IDEM. The report will include the following:

- Monthly groundwater elevation data;
- Daily precipitation data from the nearest weather station (so that precipitation data can be compared against groundwater elevation data);
- A summary of conclusions as to the likely source of the prior seep (based upon the data collected during the implementation of this Plan); and
- A plan of necessary actions/repairs to manage the historical seep. The plan will be dependent upon the conclusions drawn as to the likely source.

The field work associated with this Plan will be initiated within 60 days of receipt of IDEM's written approval, subject to weather conditions at that time. If the condition of the final cover will not allow probing equipment to traverse the area without damaging the cap, then the investigation will not be performed until the probing equipment can access the probing locations

without damaging the final cover. If the condition of the final cover necessitates a delay beyond 60 days, then IDEM will be notified.

Feel free to contact either of the undersigned or Ms. Val Blumenfeld at 219-872-8618 with any questions.

Sincerely,

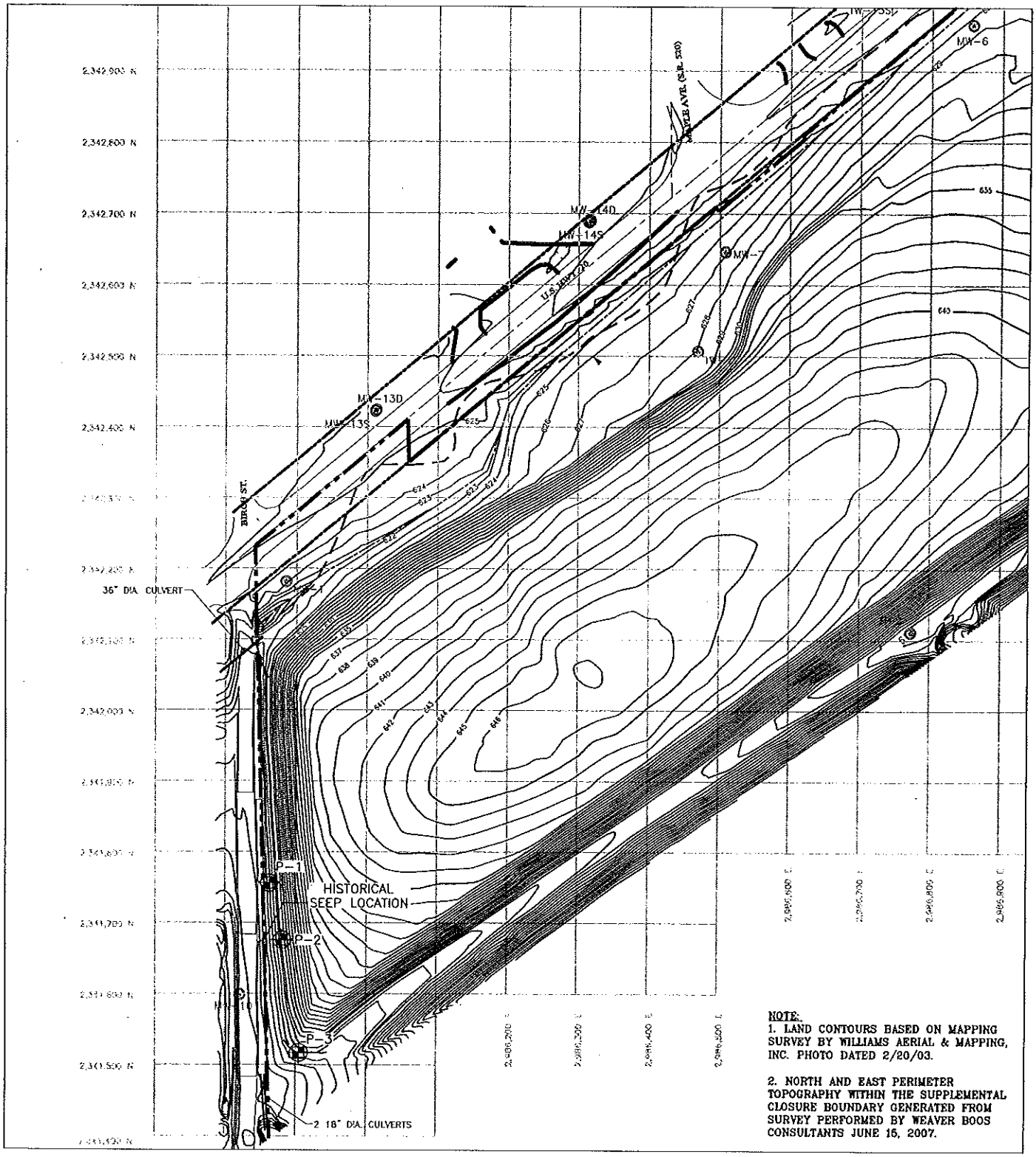
Weaver Boos Consultants North Central, LLC

Michael B. Maxwell, LPG
Senior Project Manager

Tamara A. Perkins, P.E.
Senior Project Manager

Cc: Ms. Ashley Snyder, IDEM NW Office
Ms. Val Blumenfeld (w/ encl.)

Enclosures: Figure 1 – Proposed Temporary Piezometer Location Map



LEGEND

TP-1 PROPOSED TEMPORARY PIEZOMETER LOCATION

P-2 EXISTING MONITORING WELL OR PIEZOMETER LOCATION

APPROXIMATE SCALE

0' 100' 200' 400'

N

PROPOSED TEMPORARY PIEZOMETER LOCATIONS
YARD 520 RWS-TYPE II
PORTER COUNTY, INDIANA

WEAVER BOOS CONSULTANTS

CHICAGO, IL (312)922-1030
NAPERVILLE, IL
SPRINGFIELD, IL
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FORT WORTH, TX
ST. LOUIS, MO

DRAWN BY:TG	DATE:11/02/2010	FILE:0013-01-01
REVIEWED BY:MM	CAD:BIO000157.DWG	FIGURE 1